alberta pork production handbook

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Alberta
AGRICULTURE
Pork Industry Branch

Streptococcus Suis Infection

Including:

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Members of the genus of bacteria known as streptococci can infect most mammals including pigs. Disease caused by streptococci has been recognized for many years, but it is only recently that Alberta Agriculture laboratories have had the capability of specifically identifying *Streptococcus suis*. This group of streptococci has now been recognized worldwide and causes a variety of syndromes in pigs including meningitis, arthritis, pneumonia, septicemia, endocarditis, and abortion.

A. Epidemiology

Streptococcus suis infection is one of several diseases that have become prevalent under modern intensive systems of rearing swine. Infection gains access to a herd by means of healthy carrier animals which harbor the organism in their tonsils. Spread to other animals then occurs via the respiratory tract. Cases tend to occur more frequently in the winter months, probably because sudden changes in weather conditions are more likely to stress the pigs. Other stress factors such as weaning, moving, mixing, weighing, vaccinating, etc. may also precipitate the disease. Frequently, outbreaks occur in weaners following the introduction of gilts or sows into a previously healthy herd. Presumably these females infect their offspring during the nursing period, and they in turn infect other animals after weaning and mixing. All ages of pig are susceptible, but disease outbreaks are most likely to occur in newly weaned pigs.

B. Clinical signs

A wide variety of clinical signs occur with this disease. Very severely infected pigs may die so rapidly that no signs of illness are observed, and they are merely found dead. Pigs with meningitis will show a loss of appetite, depression, reddening of the skin, fever, incoordination, paralysis, paddling, shaking and convulsions. Blindness, deafness, and lameness may also be observed. Cases of arthritis may develop lameness with enlarged, painful joints, whereas pigs dying of septicemia frequently exhibit no specific signs. Pigs with bronchopneumonia or inflammation of the heart muscle may show evidence of respiratory distress in addition to several of the signs listed above.

C. Diagnosis

A diagnosis of streptococcal infection may be suspected based on the clinical signs and post mortem findings. Confirmation, however, is dependent upon isolation and identification of the organism.

D. Treatment

If sick animals are treated early, they will respond to treatment with penicillin. Good nursing care is also essential.

E. Control

Control should be aimed at management practices that minimize stress. Particular attention should be paid to avoiding overcrowding and poor ventilation, and to keeping pigs in a clean environment because dust can harbor the bacteria. Moving and mixing pigs should be kept to a minimum, and if possible pigs should be kept in small groups. Sick pigs should be isolated because they

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spread infection by contamination of the air. Medication of rations has been of limited value and may merely delay expression of the disease if used at the time of highest risk. Some veterinarians feel that medication of the sow's ration prior to farrowing may be of some benefit. Both autogenous and commercial vaccines have been tried but with little success.

F. Zoonotic Risk

A word of warning, the type 2 strains of *Streptococcus suis* can also infect humans, producing septicemia and meningitis. Most human cases to date have been reported in abattoir workers and butchers. Other people handling pigs or pig products are also at risk. It is thought that the infection's route of entry in man is through breaks in the skin. Therefore, care should be taken when handling pigs in any herd in which this disease has been diagnosed, and particular attention should be paid to personal hygiene. As an additional precaution, rubber gloves can be worn.

For further information contact:

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